CLAIMS

What is claimed is:

1. A yclone dust separating apparatus of a vacuum cleaner, comprising:

a first cyclone for separating dust from air;

a plurality of second cyclones for separating minute dust particles from air by using a centrifugal force after the dust separation at the first cyclone; and

a cover disposed on an upper portion of the first cyclone and the second cyclones, the cover including a guide formed at a lower center to guide air discharged from the first cyclone into the second cyclones.

2. The cyclone dust separating apparatus of claim 1, wherein the guide includes a conical shape.

3. The cyclone dust separating apparatus of claim 2, wherein the cover comprises:

an air passage connecting the first cyclone with the second cyclones such that air discharged from the first cyclone is guided into smaller air-streams in a radial pattern and flows into the second cyclones; and

a fluid guide for forming an outer part of the air passage.

4. The cyclone dust separating apparatus of claim 3, wherein the air passage is extended from the conical guide in a radial pattern to connect to the second cyclones, respectively.

5. The cyclone dust separating apparatus of claim 4, wherein the fluid guide is connected with the first cyclone and the second cyclones such that the fluid guide includes a linear part at a connection with the first cyclone, and a rounded part at a connection with the second cyclones to cause air to spin upon entering the second cyclones.

6. The cyclone dust separating apparatus of claim 5, wherein the cover further comprises a plurality of discharge passages which penetrate through the cover to allow air from the second cyclones to be discharged therethrough.

7. The cyclone dust separating apparatus of claim 6, wherein the cover is connected to the second cyclones such that a part of the discharge passages is inserted in the second cyclones, respectively, and air from the second cyclones is discharged through the discharge passage.

8. The cyclone dust separating apparatus of claim 7, wherein one end of each of the discharge passages is connected to a second outlet formed at a side, and the other end of each of the discharge passages is open towards the upper portion of the cover.

9. The cyclone dust separating apparatus of claim 3, wherein the first cyclone comprises:
a first chamber in which dust is separated from air by centrifugal force;
a first inlet formed in the first chamber through which air and dust flows in; and
a first outlet formed in the first chamber, through which air is discharged.

10. The cyclone dust separating apparatus of claim 9, wherein the second cyclones each comprise:

a second chamber in which dust is further separated from air after dust separation at the first cyclone;

a second inlet formed in the second chamber, through which air flows in from the first cyclone; and

a second outlet formed in the second chamber, through which dust-removed air is discharged out.

11. The cyclone dust separating apparatus of claim 10, wherein the first chamber is, or substantially is cylindrically shaped, and the second chamber includes a frustum-conical shape at a certain part.

12. The cyclone dust separating apparatus of claim 3, further comprising:

a cyclone cover disposed on the upper portion of the cover; and

a dust collecting unit detachably connected to the first cyclone and the second cyclones.

13. The cyclone dust separating apparatus of claim 12, wherein the cyclone cover includes a conical shape with open upper and lower spaces.

14. The cyclone dust separating apparatus of claim 3, wherein the second cyclones are disposed on the outer circumference of the first cyclone in an enclosing manner, and the first and the second cyclones are integrally formed with each other.

15. The cyclone dust separating apparatus of claim 14, wherein the second cyclones are divided by a partition therebetween.

16. A vacuum cleaner, comprising:

a vacuum cleaner body for generating a suction force and drawing-in dust and air;

a bottom brush for drawing-in dust from a bottom of the working area using the suction force, the bottom brush in fluid-communication with the vacuum cleaner body; and

a cyclone separating apparatus installed in the vacuum cleaner body,

wherein the cyclone separating apparatus comprises:

a first cyclone for separating dust from an air;

a plurality of second cyclones for separating minute dust particles from air via a centrifugal force after dust separation at the first cyclone; and

a cover disposed on an upper portion of the first cyclone and the second cyclones, the cover including a guide formed at a lower center to guide air discharged from the first cyclone into the second cyclones.

17. The vacuum cleaner of claim 16, wherein the guide includes a conical shape.